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## Credit-based flow control for ATM networks

Kung, N.T. Morris, R.

Harvard Univ., Cambridge, MA, USA ;

This paper appears in: **Network, IEEE**

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On page(s): 40 - 48

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Reference Cited: 14

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Inspec Accession Number: 4931626

### Abstract:

Simulation, analysis, and experiments on switching hardware have shown the variety of traffic patterns, credit control is fair, uses links efficiently, minimize guarantees no cell loss due to congestion. The **credit-based** mechanism proposed by the authors provides **flow control** tailored to ATM networks

### Index Terms:

adaptive control asynchronous transfer mode protocols telecommunication congestion telecommunication network management ATM networks adaptive buffer allocation at loss congestion credit update protocol **credit-based flow control** simulation switch hardware traffic patterns

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1

2

3

Next  
Page

- 1 Credit-based flow control for ATM networks: credit update protocol, adaptive credit allocation and statistical multiplexing 95%  
H. T. Kung , Trevor Blackwell , Alan Chapman  
**ACM SIGCOMM Computer Communication Review , Proceedings of the conference on Communications architectures, protocols and applications** October 1994  
Volume 24 Issue 4

This paper presents three new results concerning credit-based flow control for ATM networks: (1) a simple and robust credit update protocol (CUP) suited for relatively inexpensive hardware/software implementation; (2) automatic adaptation of credit buffer allocation for virtual circuits (VCs) sharing the same buffer pool; (3) use of credit-based flow control to improve the effectiveness of statistical multiplexing in minimizing switch memory. These results have been substantiated by analysis ...

- 2 Switcherland: a QoS communication architecture for workstation clusters 90%  
Hans Eberle , Erwin Oertli  
**ACM SIGARCH Computer Architecture News , Proceedings of the 25th annual international symposium on Computer architecture** April 1998  
Volume 26 Issue 3

Computer systems have become powerful enough to process continuous data streams such as video or animated graphics. While processing power and communication bandwidth of today's systems typically are sufficient, quality of service (QoS) guarantees as required for handling such data types cannot be provided by these systems in adequate ways. We present Switcherland, a scalable communication architecture based on crossbar switches that provides QoS guarantees for workstation clusters in the form of ...

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